Fall 2018 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including USACE Erosion Survey

Sacramento River Basin

RD1601	Overall LMA	Total LMA						
Reclamation District No. 1601 Twitchell	Rating	Miles 2.43						
Rated Item	Maintenance Deficiency			Enforcement		Design & System Obsolescence		
Rated item	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
Supplemental								
DWR UCIP Field Study					0.05			
LMA Totals:	0.00	0.00	0.00	0.00%	0.05	0.00	0.00	0.00
Unit No. 01 Threemile Slough LB	Overall Unit Rating	Total Unit Miles						
RD1601	_		1					
וויייו	A	2.43						
	A		nce Deficiency		Enforc	ement	Design & Obsole	
Rated Item	M Miles		nce Deficiency M + 4U Miles	Threshold %	Enforce M Miles		Obsole	scence
		Maintena		Threshold %			Obsole	scence
Rated Item		Maintena		Threshold %			Obsole	scence

Winter **

Flood Control Project Maintenance Levee Inspections

LMA District Cover Sheet

Fall 2018 Levee Inspection Results

Reclamation District No. 1601 Twitchell

Summer **

Spring

	(March - May)	(June - August)	(September - November)	(December - February)
† Overall LMA Rating (Fall Only)			A	
	** Non-receipt of Summ Reports may effect or			
	d using the same criter	ria in the spring and i	n the fall.	
FALL INSPECTIONS: The overall maintena within the attached u			tion and maintenance de ended to be an indiction of	
Comments				

Unit Cover Sheet

Fall 2018 Levee Inspection Results

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles
Unit No. 01 Threemile Slough	Left	2.43

	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			Α	
Date of Inspection	3/22/2018 - 3/22/2018		10/12/2018 - 10/12/2018	
DWR Inspector	Keith Millard		David Julian	
Accompanied By	Rick Carter RD1601		Rick Carter RD1601	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

http://cdec.water.ca.gov/lma.html

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.00	Rating **	Α	Issue No.		6	
LM End	0.00	Issue Type +	Ма	Location *	N/A		
Earthen Levee				GPS Latitude/Longitude			
Category				Start		End	
Item		s & Maintena	nce		0		0
пеш	Manuals				0		0
DWR ID	DWR_RD1	601_01_s _ 201	3_6				
		Comn	nent Cod	de			
		Inspecto	or Comm	nent			
LMA has a	copy of th	ne O & M Man	uals on	file at the of	ffice		

No Photos

LM Start	0.00	Rating **	Α	Issue No.		7	
LM End	0.00	Issue Type +	Ma	Location *		N/A	
Category	Earthen L	evee		GPS La	atitud	e/Longitude	
Category				Start		End	
Item		y Supplies &			0		0
пеш	Equipmen	nt			0		0
DWR ID	DWR_RD1	601_01_s _ 201	13_7	'			
		Comn	nent Coo	de			
		Inspecto	or Comm	nent			
LMA has a	dequate fl	oodfight supp	lies on h	and.			

No Photos

LM Start	0.00	Rating **	Α	Issue No.		8	٦
LM End	0.00	Issue Type +	Ма	Location *		N/A	
Category Earthen Levee				GPS La	atitud	e/Longitude	
Category				Start		End	
Item	Flood Pre	paredness &	Training		0	c	2
itom					0	c	2
DWR ID	DWR_RD1	601_01_s _ 201	3_8				
		Comn	nent Cod	le			
			_				_
		Inspecto	or Comm	ient			
LMA staff i	s trained.						

No Photos

* Location

LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown

** Rating

A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable U : Unacceptable U : Unacceptable U : M : Acceptable M : Minimally Acceptable D : M : Moritor & Maintain En : Enforcement

** Rating

A : Acceptable N : Not Inspected/Rated M : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.00	Rating **	Α	Issue No.		9	
LM End	2.40	Issue Type +	Ma	Location *		LS	
Category	Earthen L	evee		GPS La	titud	le/Longitude	
Calegory				Start		End	
Item	Vegetatio	n			0	38.087987	0
пеш				-121.68247	73 °		0
DWR ID	DWR_RD1	601_01_f _ 201	8_9				
		Comn	nent Coc	de			
V1 : Contro	ol annual g	rass and wee	ds on th	e levee slop	es	and	
easements	S.						
		Inspecto	or Comm	nent			
LMA shoul	d continue	with their effe	ective ve	getation ma	ınaç	gement.	

No Photos

Rating ** Issue No. Α 0.00 LM Start 12 Location * LM End 2.40 Issue Type + Ма WS Earthen Levee GPS Latitude/Longitude Category Start End Vegetation 38.122283° 38.087987° Item -121.682473 ° -121.684006 ° DWR_RD1601_01_f _ 2018_12 DWR ID **Comment Code**

V1 : Control annual grass and weeds on the levee slopes and easements.

Inspector Comment

No Photos

N : Not Inspected/Rated C : Corrected + Issue Type

Ma : Maintenance Deficiency

Ob : Design & System Obsolescence
En : Enforcement

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.11	Rating **	М	Issue No.	13	
LM End	0.11	Issue Type +	En	Location *		
Category	Suppleme	ental		GPS Latitude/Longitude		
Calegory				Start End		
Item	DWR UC	P Field Study		38.1207	16°	38.120716°
item				-121.6827	96°	-121.682796°
DWR ID	20950					
Comment Code						

Inspector Comment

FS_ID:22043 DS_ID:20950 EP_NO: 11227

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment.

FIELD_STRUCT_DESC: 14-inch pipe (not 12-inch pipe as original description noted) through the levee, 4 feet below the crown. Siphon primer on waterside (WS) shoulder. 36-inch steel (not concrete as original description noted) pipe with shut-off valve inside at landside (LS) toe ditch. (12-inch pipe authorized under Automatic Board Order (ABO) issued as Permit No. 11227, 1975-Standard Oil of California; no permit found for 14-inch pipe) [Additional Reference(s): DWR Levee Logs, 2005]

FS Date: 5/14/2013

LM Start	0.11	Rating **	M	Issue No.	13 (cont)
LM End	0.11	Issue Type +	En	Location *	





View of waterward side. 12-inch pipe to the right and 14-inch pipe to the left.

Photo 2 of 3: UCIP_FA_2018_22043_37622.jpg



View of landward side with canal located at toe.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.11	Rating **	М	Issue No.		13 (cont)	
LM End	0.11	Issue Type +	En	Location *			
Category	Supplemental				GPS Latitude/Longitude		
Calegory				Start		End	
Item	DWR UCI	IP Field Study		38.12071	6°	38.120716°	
пеш				-121.68279	6°	-121.682796°	
DWR ID	20950						

Inspector Comment

Comment Code

FS_ID:22043 DS_ID:20950 EP_NO: 11227

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment.

FIELD_STRUCT_DESC: 14-inch pipe (not 12-inch pipe as original description noted) through the levee, 4 feet below the crown. Siphon primer on waterside (WS) shoulder. 36-inch steel (not concrete as original description noted) pipe with shut-off valve inside at landside (LS) toe ditch. (12-inch pipe authorized under Automatic Board Order (ABO) issued as Permit No. 11227, 1975-Standard Oil of California; no permit found for 14-inch pipe) [Additional Reference(s): DWR Levee

Logs, 2005] FS Date: 5/14/2013





View of pipes located on landward side-dense vegetation along slope.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.11	Rating **	М	Issue No.		14
LM End	0.11	Issue Type +	En	Location *		
Category	Supplemental					e/Longitude
Calegory				Start		End
Item	DWR UCI	P Field Study		38.12070	8°	38.120708°
пеш				-121.68279	8°	-121.682798 °
DWR ID	20953					

Inspector Comment

Comment Code

FS_ID:42024 DS_ID:20953 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: Appears this crossing might have been recently modified--O&M manual calls for 8 inch pipe not 12 inch pipe, need additional information--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment.

FIELD_STRUCT_DESC: 12-inch (not 8 inch listed in USACE) siphon through the levee approximately 3.2 feet below the crown. The existing 8-inch pipe listed in the O&M manual is no longer present, no permit was found authorizing crossing modifications. [Additional Reference(s): USACE Sacramento O&M Manual Unit No. 102, April 1959, (HLM 0.1), 8-inch pipel

FS Date: 5/14/2013

LM Start	0.11	Rating **	М	Issue No.	14 (cont)
LM End	0.11	Issue Type +	En	Location *	



View of waterward side. 12-inch pipe on the right (u/s) and 14-inch pipe on the left (d/s).

Photo 2 of 3: UCIP_FA_2018_42024_60810.jpg



View of pipes from landward shoulder. Levee is a gravel road.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.11	Rating **	M	Issue No.		14 (cont)
LM End	0.11	Issue Type +	En	Location *		
Category	Suppleme	ental		GPS Lat	itud	e/Longitude
Calegory				Start		End
Item	DWR UCI	P Field Study		38.12070	8 °	38.120708°
пеш				-121.68279	8°	-121.682798°
DWR ID	20953					

Comment Code

Inspector Comment

FS_ID:42024 DS_ID:20953 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: Appears this crossing might have been recently modified--O&M manual calls for 8 inch pipe not 12 inch pipe, need additional information--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment.

FIELD_STRUCT_DESC: 12-inch (not 8 inch listed in USACE) siphon through the levee approximately 3.2 feet below the crown. The existing 8-inch pipe listed in the O&M manual is no longer present, no permit was found authorizing crossing modifications. [Additional Reference(s): USACE Sacramento O&M Manual Unit No. 102, April 1959, (HLM 0.1), 8-inch pipe]

FS Date: 5/14/2013

Photo 3 of 3: UCIP_FA_2018_42024_60812.jpg



View of pipes on landward side-dense vegetation along slope.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.79	Rating **	М	Issue No.		15	
LM End	0.79	Issue Type +	En	Location *			
Category	Suppleme	Supplemental G				e/Longitude	
Calegory				Start		End	
Item	DWR UCI	IP Field Study		38.11107	'8	38.111078	0
пеш				-121.68201	1 °	-121.682011	0
DWR ID	20958						

Comment Code

Inspector Comment

FS_ID:50031 DS_ID:20958 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Not Found

UCIP Comments: 8/02/2016 LMA representative, Rick Carter, was notified on 7/5/2016 by Underground Service Alert that no pipe line was idenfied within RD1601 levees. UCIP will need to coordinate with PG&E directly to determine fate of crossing. This crossing was downgraded from Urgent to Non-Urgent due to the crossing not in service. (DWR UCIP - omagana)7/05/2016 No markers present. According to LMA representative, Rick Carter, this crossing is an abandoned PG&E 450 low pressure line. LMA representative is coordinating with Underground Service Alert (USA) to confirm location of crossing. Once USA provides location Rick Carter will provide photos of location and overview photos of crossing to Olivia M (DWR UCIP). Pending Action - Need to coordinate with PG&E to determine details about the year and method of pipe abandonment. (DWR UCIP - omagana)5/14/2013 no markers or signs available--will need to coordinate with owner to determine if crossing is still being used or abandoned. (DWR UCIP - omagana) FIELD_STRUCT_DESC: 12-inch steel 450 low pressure gas line through the levee at an unknown depth. Facility on landside (LS)-not found in 2013. USACE Drawing indicates gas line and facility were relocated, (LMA representative believes PG&E abandoned line). [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual Unit No. 102, April 1959, Drawing No. 50-4-2958]. FS Date: 7/5/2016

No Photos

CR : Crown

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.79	Rating **	М	Issue No.		16
LM End	0.79	Issue Type +	En	Location *		
Category	ental	GPS Latitude/Longitude				
Calegory				Start		End
Item	DWR UCI	P Field Study		38.1110	78°	38.111078°
пеш				-121.6820	11 °	-121.682011 °
DWR ID	24069					·

Inspector Comment

Comment Code

FS_ID:52959 DS_ID:24069 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 03/08/2018 No supporting documentation was received for this crossing by KSN Inc. to determine the fate of this encroachment. Need to contact KSN Inc. (Dcarr@KSNinc.com) to obtain documentation for the removal or abandonment of

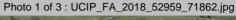
encroachment. (O. Magana - DWR UCIP)

03/19/2009 Unable to determine if line crosses levee. Need to contact owner to determine if crossing goes through levee. Also need to determine permit authorizing work on landward side. (O. Magana - DWR UCIP)

FIELD_STRUCT_DESC: Steel stand pipe with PVC pipe inside located on landside (LS) shoulder. Rip rap located on waterside (WS) slope. Unable to determine if crossing goes through levee. Appears to be monitoring gas well.

FS Date: 3/19/2009

LM Start	0.79	Rating **	М	Issue No.	16 (cont)
LM End	0.79	Issue Type +	En	Location *	





View of landward side--standpipe located on slope.

Photo 2 of 3: UCIP_FA_2018_52959_71860.jpg



View of landward side--dense vegetation along slope.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	0.79	Rating **	М	Issue No.		16 (cont)	
LM End	0.79	Issue Type +	En	Location *			
Category	Suppleme	ental		GPS Latitude/Longitude			
Category				Start		End	
Itom	DWR UCI	IP Field Study		38.11107	8°	38.111078°	
Item				-121.68201	1 °	-121.682011 °	
DWR ID	24069					·	

Inspector Comment

Comment Code

FS_ID:52959 DS_ID:24069 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 03/08/2018 No supporting documentation was received for this crossing by KSN Inc. to determine the fate of this encroachment. Need to contact KSN Inc. (Dcarr@KSNinc.com) to obtain documentation for the removal or abandonment of

encroachment. (O. Magana - DWR UCIP)

03/19/2009 Unable to determine if line crosses levee. Need to contact owner to determine if crossing goes through levee. Also need to determine permit authorizing work on landward side. (O. Magana - DWR UCIP)

FIELD_STRUCT_DESC: Steel stand pipe with PVC pipe inside located on landside (LS) shoulder. Rip rap located on waterside (WS) slope. Unable to determine if crossing goes through levee. Appears to be monitoring gas well.

FS Date: 3/19/2009



PVC pipe inside standpipe located on landward side.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	2.05	Rating **	М	Issue No.		17
LM End	2.05	Issue Type +	En	Location *		
Category	Supplemental		GPS Latitude/Longitude			
Calegory		Start		End		
Item	DWR UCI	P Field Study		38.0931	07°	38.093107°
пеш				-121.6845	25 °	-121.684525 °
DWR ID	20951					

Inspector Comment

Comment Code

FS_ID:19545 DS_ID:20951 EP_NO: 2909A

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment. Dense vegetation on landward slope limits the inspector's visibility to identify signs of leaks along levee slope. FIELD_STRUCT_DESC: 8-inch siphon irrigation pipe through levee, 2.4 feet below crown. Cutoff wall around pipe at center of levee. Siphon breaker on apex of pipe on landside (LS) shoulder. Hand primer pump on LS slope. (8-inch pipe authorized under Permit No. 2909A, 1960-J. Souza). [Additional Reference(s): DWR Levee Logs, 2005] FS Date: 5/14/2013

LM Start	2.05	Rating **	М	Issue No.	17 (cont)
LM End	2.05	Issue Type +	En	Location *	

Photo 1 of 3 : UCIP_FA_2018_19545_33173.jpg

View of levee crown looking downstream at crossing.

Photo 2 of 3: UCIP_FA_2018_19545_33174.jpg



View of levee crown looking upstream at crossing.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	10/12/2018 10/12/2018	David Julian

LM Start	2.05	Rating **	М	Issue No.		17 (cont)
LM End	2.05	Issue Type +	En	Location *		
Category	Supplemental			GPS La	e/Longitude	
Calegory				Start		End
Itom	DWR UCI	IP Field Study		38.0931	07°	38.093107°
Item				-121.6845	25 °	-121.684525°
DWR ID	20951					

Inspector Comment

Comment Code

FS_ID:19545 DS_ID:20951 EP_NO: 2909A

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment. Dense vegetation on landward slope limits the inspector's visibility to identify signs of leaks along levee slope. FIELD_STRUCT_DESC: 8-inch siphon irrigation pipe through levee, 2.4 feet below crown. Cutoff wall around pipe at center of levee. Siphon breaker on apex of pipe on landside (LS) shoulder. Hand primer pump on LS slope. (8-inch pipe authorized under Permit No. 2909A, 1960-J. Souza). [Additional Reference(s): DWR Levee Logs, 2005] FS Date: 5/14/2013



View of crossing on waterward slope. Rip rap present at waterward toe.